APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,629	09/20/2000	David A. Russo	TI-29688	5697

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EXAMINER
GROSS, KENNETH A

ART UNIT	PAPER NUMBER
2122	

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/666,629	RUSSO ET AL.
	Examiner	Art Unit
	Kenneth A Gross	2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _09 March 2004_.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-11_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-11_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _8_.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over

"Reentrant: What is it, why does it matter?" by David K. Every, February 1999 (hereinafter

Every) in view of "Writing Relocatable Code" by Jack G. Ganssle, 1992 (hereinafter Ganssle)

and further in view of Kogure (U.S. Patent Number 5,247,674).

In regard to Claim 1, Every teaches designing an algorithm module in a manner that

renders the algorithm module reentrant within a preemptive environment (Page 3, lines 3-6).

Every does not teach coding a plurality of data access instructions of the algorithm module in a

manner that renders the module and the instructions relocatable. Ganssle, however, does teach

writing instructions that make code relocatable (Page 1, lines 4-5). Neither Every nor Ganssle

teach providing a memory interface within the algorithm module that supports both design-time

object instantiation and dynamic object instantiation wherein the dynamic object instantiation

comprises memory allocation by any framework in the plurality of frameworks in response to

memory usage requirements reported to the framework by the algorithm module through the

memory interface, and wherein the design-time object instantiation comprises memory initiation

by any framework in the plurality of frameworks in response to memory usage requirements

reported to the framework by the algorithm module through the memory interface. Kogure, however, teaches providing a program both static and dynamic allocation (Column 3, lines 54-60). Kogure also teaches a memory allocation and initiation system (Figure 3) for a plurality of frameworks in response to memory usage requirements (Figure 3, item 11) reported to the framework (Figure 3, items 15 and 16) by the algorithm module (Figure 3, item 10) through the memory interface (Figure 3, item 12). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to design an algorithm module in a manner that renders the algorithm module reentrant within a preemptive environment, as taught by Every, since this allows a program to be shared by several programs at one time, where the data access instruction of the algorithm module is coded in a manner that renders the module and the instructions relocatable, as taught by Ganssle, since this allows a program module to be loaded into any part of available memory, as taught by The Microsoft Press Computer Dictionary, where the program module contains a memory interface that supports both design-time object instantiation and dynamic object instantiation wherein the dynamic object instantiation comprises memory allocation by any framework in the plurality of frameworks in response to memory usage requirements reported to the framework by the algorithm module through the memory interface, and wherein the design-time object instantiation comprises memory initiation by any framework in the plurality of frameworks in response to memory usage requirements reported to the framework by the algorithm module through the memory interface, since this allows for customizable memory allocation as requested by the object program.

In regard to Claim 7, the method steps of Claim 7 correspond to the method steps of Claim 1. The main difference is that Claim 7 does not create a module, but modifies a currently

existent module to be reentrant, relocatable, and have a memory interface. However, the

motivation for a module with these features is stated in Claim 1. Therefore the method steps of

Claim 7 is rejected under the same logic as the method steps of Claim 1, where it would be

obvious to modify a preexisting module with the features listed in Claim 7, where the benefit of

such features are stated in Claim 1.

3.   Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over

"Reentrant: What is it, why does it matter?" by David K. Every, February 1999 (hereinafter

Every) in view of "Writing Relocatable Code" by Jack G. Ganssle, 1992 (hereinafter Ganssle)

and further in view of Kogure (U.S. Patent Number 5,247,674), Sakata et al. (U.S. Patent

Number 6,292,937), Blanck et al. (U.S. Patent Number 5,146,565), and "Microsoft Press

Computer Dictionary: Third Edition", Microsoft Press, 1997, page 484.

In regard to Claim 2, Every, Ganssle, and Kogure teach the method of Claim 1, but does

not teach characterizing in the algorithm module whether the algorithm module may or may not

be placed in ROM. Sakata, however, does teach an attribute indicating whether or not to store an

object data in ROM (Column 5, line 60 to Column 6, line 6). Neither Every, Ganssle, Kogure,

nor Sakata teach prohibiting direct access to a peripheral device. Blanck, however, does teach

prohibiting direct access to an I/O device (Column 2, lines 29-33). Neither Every, Ganssle,

Kogure, Sakata, nor Blanck teach packaging the algorithm module in an archive which has a

name that follows a uniform naming convention, naming each algorithm header using a uniform

naming convention, and naming all external identifiers according to a uniform naming

convention. The Microsoft Press Computer Dictionary reference, however, does teach using a

Uniform Naming Convention to name files on a computer on a network, so it would be

beneficial to name an archive file, algorithm module files, and external identifiers, which can be

seen a file names, using a Universal Naming Convention (Page 484). The examiner takes official

notice that packaging modules into an archive is a well-known method of storing often used or

common modules in one place, such as a library. The examiner takes official notice that it is

inherent that the method of Claim 1 further includes conforming to a run-time convention of a

high level language, since the algorithm module is designed by code, and thus would need to be

coded in a specific language, hence conforming to the high-level language. Therefore, it would

have been obvious to one of ordinary skill in the art at the time of the invention to perform the

method of Claim 1, as taught by Every, Ganssle, and Kogure, where the method further includes

characterizing in the algorithm module whether the algorithm module may or may not be placed

in ROM, as taught by Sakata, since this allows consistent data to be stored in ROM, and

prohibiting direct access to a peripheral device, as taught by Blanck, since this protects the data

of the peripheral device from unauthorized access, and packaging the algorithm module in an

archive, since this allows commonly used or similar modules to be grouped in one place, which

has a name that follows a uniform naming convention, naming each algorithm header using a

uniform naming convention, and naming all external identifiers according to a uniform naming

convention, as taught by The Microsoft Press Computer Dictionary reference, since this allows

the files to be accessed from the network without naming conflicts, and finally conforming to a

run-time convention of a high level language, since code written in a high level language is

conformed to the language.

Claim 8 contains limitations that have already been addressed in the rejection of Claim 2,

and Claim 8 is rejected for the same reasons as Claim 2.

4.   Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over
"Reentrant: What is it, why does it matter?" by David K. Every, February 1999 (hereinafter
Every) in view of "Writing Relocatable Code" by Jack G. Ganssle, 1992 (hereinafter Ganssle)
and further in view of Kogure (U.S. Patent Number 5,247,674), Sakata et al. (U.S. Patent
Number 6,292,937), Blanck et al. (U.S. Patent Number 5,146,565), "Microsoft Press Computer
Dictionary: Third Edition", Microsoft Press, 1997, page 484, and "Sams Teach Yourself Java 2
Platform in 21 Days Professional Reference Edition", by Laura Lemay et al., Sams Publishing,
1999 (hereinafter Lemay).

       In regard to Claims 3 and 9, for logic behind the rejections of the limitations of these
Claims, see the office action mailed on November 13th, 2003 (Note: Claim 3 has been amended
to correct minor grammatical errors, and the scope of the claim has not changed).

5.   Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over
"Reentrant: What is it, why does it matter?" by David K. Every, February 1999 (hereinafter
Every) in view of "Writing Relocatable Code" by Jack G. Ganssle, 1992 (hereinafter Ganssle)
and further in view of Kogure (U.S. Patent Number 5,247,674), Sakata et al. (U.S. Patent
Number 6,292,937), Blanck et al. (U.S. Patent Number 5,146,565), "Microsoft Press Computer
Dictionary: Third Edition", Microsoft Press, 1997, page 484, "Sams Teach Yourself Java 2
Platform in 21 Days Professional Reference Edition", by Laura Lemay et al., Sams Publishing,
1999 (hereinafter Lemay), and McLain, Jr. (U.S. Patent Number 5,956,513).

       In regard to Claim 4, Every, Ganssle, Kogure, Sakata, Blanck, and Lemay teach the
method of Claim 3, but do not teach that the algorithm module is provided with a header file that
is included in more than one framework in the plurality of frameworks. McLain, however, does

teach header files attached to application frameworks which can be included in a plurality of application frameworks (Column 7, lines 22-26). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of Claim 3, as taught by Every, Ganssle, Kogure, Sakata, Blanck, and Lemay, where the algorithm module is provided with a header file that is included in more than one framework in the plurality of frameworks, as taught by McLain, since this allows for ease of programming by reusing common programming elements in multiple applications.

Claim 10 contains limitations that have already been addressed in the rejection of Claim 4, and Claim 10 is rejected for the same reasons as Claim 4.

6.   Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Reentrant: What is it, why does it matter?" by David K. Every, February 1999 (hereinafter Every) in view of "Writing Relocatable Code" by Jack G. Ganssle, 1992 (hereinafter Ganssle) and further in view of Kogure (U.S. Patent Number 5,247,674), Sakata et al. (U.S. Patent Number 6,292,937), Blanck et al. (U.S. Patent Number 5,146,565), "Microsoft Press Computer Dictionary: Third Edition", Microsoft Press, 1997, page 484, and "Practical C++", by Rob McGregor, Que Corporation, 1999 (hereinafter McGregor).

In regard to Claims 5 and 11, for logic behind the rejections of the limitations of these Claims, see the office action mailed on November 13th, 2003.

7.   Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over "Reentrant: What is it, why does it matter?" by David K. Every, February 1999 (hereinafter Every) in view of "Writing Relocatable Code" by Jack G. Ganssle, 1992 (hereinafter Ganssle) and further in view of Kogure (U.S. Patent Number 5,247,674) and Poteat et al. (U.S. Patent Number 5,970,245).

In regard to Claim 6, for logic behind the rejection of the limitations of this Claim, see

the office action mailed on November 13th, 2003.

Response to Arguments

8.   Applicant's arguments filed March 9th, 2004 have been fully considered but they are not

persuasive.

Specifically, the applicant argues that the examiner is using the benefit of hindsight to

collect the references in the rejection of the limitations of Claim 1, and that there is no suggestion

in the cited references to combine them (Page 13, Paragraph 3). However, the references each

teach aspects of programming, namely, programming optimizations that can be carried out on

program code. It would be obvious to combine the references just as it would be obvious to

combine different programming optimizations to produce the most optimized code possible. The

applicant further states that Every is merely an explanation of reentrancy. However, while Every

does indeed explain reentrancy, Every also discloses a common problem in programming that

reentrancy solves. Hence, reentrant code is a programming optimization that would benefit

program code. Similarly, Ganssle and Kogure also teach programming optimizations that solve

specific programming problems, and thus would benefit programming code.

With regard to the arguments regarding the newly amended Claims 1 and 7, further

detailing the framework's role in memory allocation, the applicant states that none of the prior

references teach the operation of the framework in this respect (Page 13, Paragraph 6).

In regard to Claims 2 and 8, the applicant states on Page 14, Paragraph 2 that the

Hosotani reference does not teach the ROM-ability feature as defined in the specification, and

Claims 2 and 8 have been further amended to specifically point out the feature of ROM-ability

mode. In regard to the amendment, the examiner has provided a new reference, and Claims 2 and

8 have been rejected under this new art above.

Conclusion

9.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kenneth A Gross whose telephone number is (703) 305-0542.

The examiner can normally be reached on Mon-Fri 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tuan Q Dam can be reached on (703) 305-4552. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KAG

TUAN DAM
SUPERVISORY PATENT EXAMINER